

4982-5.TXT
SEQUENCE LISTING

4982-5.TXT

Pro Leu Phe Glu Asp Ser Ser Val Phe His Gly Val Glu His Trp Thr
20 25 30

Lys Gly Lys Arg Ser Lys Arg Ser Arg Ser Asp Phe His His Gln Asn
35 40 45

Leu Thr Glu Glu Glu Tyr Leu Ala Phe Cys Leu Met Leu Leu Ala Arg
50 55 60

Asp Asn Arg Gln Pro Pro Pro Pro Pro Ala Val Glu Lys Leu Ser Tyr
65 70 75 80

Lys Cys Ser Val Cys Asp Lys Thr Phe Ser Ser Tyr Gln Ala Leu Gly
85 90 95

Gly His Lys Ala Ser His Arg Lys Asn Leu Ser Gln Thr Leu Ser Gly
100 105 110

Gly Gly Asp Asp His Ser Thr Ser Ser Ala Thr Thr Thr Ser Ala Val
115 120 125

Thr Thr Gly Ser Gly Lys Ser His Val Cys Thr Ile Cys Asn Lys Ser
130 135 140

Phe Pro Ser Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu
145 150 155 160

Gly Asn Asn Asn Ile Asn Thr Ser Ser Val Ser Asn Ser Glu Gly Ala
165 170 175

Gly Ser Thr Ser His Val Ser Ser Ser His Arg Gly Phe Asp Leu Asn
180 185 190

Ile Pro Pro Ile Pro Glu Phe Ser Met Val Asn Gly Asp Asp Glu Val
195 200 205

Met Ser Pro Met Pro Ala Lys Lys Pro Arg Phe Asp Phe Pro Val Lys
210 215 220

Leu Gln Leu
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<210> 3
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 3
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<210> 4
 <211> 53
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic primer

<400> 4
 ggggaccact ttgtacaaga aagctgggta atttccttaa agttgaagtt tga 53

<210> 5
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 5
 Gln Ala Leu Gly Gly His
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<210> 6
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Met or Trp

<400> 6
 Asn Asn Xaa Gln Met His
 1 5

<210> 7
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> Ala, Cys, Phe, Gly, His, Ile, Lys, Leu, Met, Arg, Thr,
 Val, Trp or Tyr

<220>

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<221> MOD_RES
 <222> (5)..(5)
 <223> Ala, Cys, Phe, Gly, His, Ile, Lys, Leu, Met, Arg, Thr,
 Val, Trp or Tyr

<220>
 <221> MOD_RES
 <222> (6)..(6)
 <223> Variable amino acid or not present

<400> 7
 Xaa Asp Leu Asn Xaa Xaa Pro
 1 5

<210> 8
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
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 <222> (3)..(3)
 <223> May or may not be present

<220>
 <221> MOD_RES
 <222> (6)..(6)
 <223> Variable amino acid

<400> 8
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<210> 9
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MOD_RES
 <222> (2)..(2)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (4)..(5)
 <223> Variable amino acid

<220>
 <221> MOD_RES
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 <223> Variable amino acid

<220>
 <221> MOD_RES

<222> (10)..(11)

<223> Variable amino acid

<400> 9

Glu Xaa Glu Xaa Ala Xaa Cys Leu Xaa Xaa Leu
 1 5 10

<210> 10

<211> 1006

<212> DNA

<213> *Datisca glomerata*

<400> 10

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cgcttagata gcccataacc gaggaagagt accttgcttt ctgcctcatc atgctcgctc      240
gtggccgcgt tgccctcgca aatcgacggg attctcagtc ttccattcag attcagcctg      300
aagcaacgac ttcggtacc aaagtcagtt ataagtgtc tgtgtgcgat aaggcctttt      360
cgcttatca ggctttgggt gggcacaagg ccagccacag aaagctcgct ggcggcgaaag      420
atcaatcgac ttcttttgcc accacgaatt cagccaccgt cactaccacc acagcctccg      480
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agtttcttta taggaggaga tttaaaaaag tagtatctct ctttctttat ccgtaggata      900
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<210> 11

<211> 247

<212> PRT

<213> *Datisca glomerata*

<400> 11

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His Tyr Asp Asp Pro Ser Leu Asn Tyr Leu Glu Pro Trp Thr Lys Arg
 20 25 30

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Lys Arg Ser Lys Arg Thr Arg Leu Asp Ser Pro His Thr Glu Glu Glu
 35 40 45

Tyr Leu Ala Phe Cys Leu Ile Met Leu Ala Arg Gly Arg Val Ala Ser
 50 55 60

Ala Asn Arg Arg Asp Ser Gln Ser Ser Ile Gln Ile Gln Pro Glu Ala
 65 70 75 80

Thr Thr Ser Ala Thr Lys Val Ser Tyr Lys Cys Ser Val Cys Asp Lys
 85 90 95

Ala Phe Ser Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His Arg
 100 105 110

Lys Leu Ala Gly Gly Glu Asp Gln Ser Thr Ser Phe Ala Thr Thr Asn
 115 120 125

Ser Ala Thr Val Thr Thr Thr Thr Ala Ser Gly Gly Gly Arg Ser
 130 135 140

His Glu Cys Ser Ile Cys His Lys Ser Phe Pro Thr Gly Gln Ala Leu
 145 150 155 160

Gly Gly His Lys Arg Cys His Tyr Glu Gly Ser Ile Gly Gly Asn Ser
 165 170 175

Ile His His His Asn Asn Thr Thr Asn Ser Gly Ser Asn Gly Gly Met
 180 185 190

Ser Met Thr Ser Glu Val Gly Ser Thr His Thr Val Ser His Ser His
 195 200 205

Arg Asp Phe Asp Leu Asn Ile Pro Ala Leu Pro Glu Phe Arg Ser Asn
 210 215 220

Phe Phe Ile Ser Gly Asp Asp Glu Val Glu Ser Pro His Pro Ala Lys
 225 230 235 240

Lys Pro Arg Ile Leu Met Lys
 245

<210> 12

<211> 996

<212> DNA

<213> Glycine max

<400> 12

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tgagagttac tataatttga tttgtacat agtacttga agttttgtt gaccgtaccg 900
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<210> 13
 <211> 240
 <212> PRT
 <213> Glycine max

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<400> 13
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Arg Ser Arg Asp His Pro Ser Glu Glu Glu Tyr Leu Ala Leu Cys Leu
35          40          45

Ile Met Leu Ala Arg Gly Gly Thr Thr Thr Val Asn Asn Arg His Val
50          55          60

Ser Pro Pro Pro Leu Gln Pro Gln Pro Gln Pro Thr Pro Asp Pro Ser
65          70          75          80

Thr Lys Leu Ser Tyr Lys Cys Ser Val Cys Asp Lys Ser Phe Pro Ser
85          90          95

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Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His Arg Lys Leu Ala Gly
 100 105 110
 Ala Ala Glu Asp Gln Pro Pro Ser Thr Thr Thr Ser Ser Ala Ala Ala
 115 120
 Thr Ser Ser Ala Ser Gly Gly Lys Ala His Glu Cys Ser Ile Cys His
 130 135 140
 Lys Ser Phe Pro Thr Gly Gln Ala Leu Gly Gly His Lys Arg Cys His
 145 150 155 160
 Tyr Glu Gly Asn Gly Asn Gly Asn Asn Asn Asn Ser Asn Ser Val Val
 165 170 175
 Thr Val Ala Ser Glu Gly Val Gly Ser Thr His Thr Val Ser His Gly
 180 185 190
 His His Arg Asp Phe Asp Leu Asn Ile Pro Ala Phe Pro Asp Phe Ser
 195 200
 Thr Lys Val Gly Glu Asp Glu Val Glu Ser Pro His Pro Val Met Lys
 210 215 220
 Lys Pro Arg Leu Phe Val Ile Pro Lys Ile Glu Ile Pro Gln Phe Gln
 225 230 235 240

<210> 14

<211> 1006

<212> DNA

<213> Medicago sativa

<400> 14

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tggagcact taactcacc accactgcta ctcttttcac accctttgag gaaccaaact	180
tgagttatct tgaacaccg tggacgaaag gtaaacgata aaagcggtct cgcatggatc	240
aatcttcacg cactgaagaa gagtatctcg ctctttgtct catcatgctt gctcgcagcg	300
gtaacaacaa cgacaaaag tctgattcgg tggcgacgcc gtaaccacc gttaaaactca	360
gtcacaaatg ctacgtctgc aacaaagctt tctcatctta tcaagcccta ggtggacaca	420
aagccagtca ccggaagct gttatgtccg caaccaccgc tgaagatcag atcaccacca	480
cttcatccgc cgtgactacc agctctgctt ccaacggtaa gaacaagact catgagtgtt	540
ccatctgtca caaatcttc cctactggac aggtcttggg aggcacacaag cggtgtcact	600

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acttttcaaa	gaagttttc	gtggatgacg	aggtttttag	tcctttacct	gctgcaaaga	780
agccctgtct	tttcaagctg	gaaattcctt	ctcattactg	atcaataata	gatccaattt	840
tattgttatt	attattaata	attattatcg	cttagggcat	agttattttc	ttttttcttt	900
caattatttc	ggatcaattt	gttctgtaca	tacaaattgg	gattggtttt	agaatttagg	960
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<210> 15

<211> 235

<212> PRT

<213> Medicago sativa

<400> 15

Met	Ala	Met	Glu	Ala	Leu	Asn	Ser	Pro	Thr	Thr	Ala	Thr	Pro	Phe	Thr
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Pro	Phe	Glu	Glu	Pro	Asn	Leu	Ser	Tyr	Leu	Glu	Thr	Pro	Tyr	Thr	Lys
		20						25					30		

Gly	Lys	Arg	Ser	Lys	Arg	Ser	Arg	Met	Asp	Gln	Ser	Ser	Cys	Thr	Glu
		35					40					45			

Glu	Glu	Tyr	Leu	Ala	Leu	Cys	Leu	Ile	Met	Leu	Ala	Arg	Ser	Gly	Asn
	50					55					60				

Asn	Asn	Asp	Lys	Lys	Ser	Asp	Ser	Val	Ala	Thr	Pro	Leu	Thr	Thr	Val
65					70					75					80

Lys	Leu	Ser	His	Lys	Cys	Ser	Val	Cys	Asn	Lys	Ala	Phe	Ser	Ser	Tyr
			85						90					95	

Gln	Ala	Leu	Gly	Gly	His	Lys	Ala	Ser	His	Arg	Lys	Ala	Val	Met	Ser
		100						105					110		

Ala	Thr	Thr	Ala	Glu	Asp	Gln	Ile	Thr	Thr	Thr	Ser	Ser	Ala	Val	Thr
		115					120					125			

Thr	Ser	Ser	Ala	Ser	Asn	Gly	Lys	Asn	Lys	Thr	His	Glu	Cys	Ser	Ile
		130				135					140				

Cys	His	Lys	Ser	Phe	Pro	Thr	Gly	Gln	Ala	Leu	Gly	Gly	His	Lys	Arg
145					150					155					160

Cys	His	Tyr	Glu	Gly	Ser	Val	Gly	Ala	Gly	Ala	Gly	Ala	Gly	Ser	Asn
			165						170					175	

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Ala Val Thr Ala Ser Glu Gly Val Gly Leu Ser His Ser His His Arg
180 185 190

Asp Phe Asp Leu Asn Leu Pro Ala Phe Pro Asp Phe Ser Lys Lys Phe
195 200 205

Phe Val Asp Asp Glu Val Phe Ser Pro Leu Pro Ala Ala Lys Lys Pro
210 215 220

Cys Leu Phe Lys Leu Glu Ile Pro Ser His Tyr
225 230 235

<210> 16

<211> 1061

<212> DNA

<213> Nicotiana tabacum

<400> 16

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agaagagtat ttagccctct gtctcatcat gctcgctcgc agcggaaaccg gaaccagaac	240
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gccggttcat aagaaaggagg tggcaacaga gcaagcagag caatcttaca agtgtagcgt	360
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<210> 17

<211> 273

<212> PRT
 <213> Nicotiana tabacum

<400> 17

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 20 25 30

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 35 40 45

Glu Glu Glu Tyr Leu Ala Leu Cys Leu Ile Met Leu Ala Arg Ser Gly
 50 55 60

Thr Gly Thr Arg Thr Gly Leu Thr Asp Ala Thr Thr Ser Gln Gln Pro
 65 70 75 80

Ala Asp Lys Lys Thr Ala Glu Leu Pro Pro Val His Lys Lys Glu Val
 85 90 95

Ala Thr Glu Gln Ala Glu Gln Ser Tyr Lys Cys Ser Val Cys Asp Lys
 100 105 110

Ala Phe Ser Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His Arg
 115 120 125

Lys Thr Thr Thr Thr Ala Thr Ala Ala Ser Asp Asp Asn Asn Pro Ser
 130 135 140

Thr Ser Thr Ser Thr Gly Ala Val Asn Ile Ser Ala Leu Asn Pro Thr
 145 150 155 160

Gly Arg Ser His Val Cys Ser Ile Cys His Lys Ala Phe Pro Thr Gly
 165 170 175

Gln Ala Leu Gly Gly His Lys Arg Arg His Tyr Glu Gly Lys Leu Gly
 180 185 190

Gly Asn Ser Arg Asp Leu Gly Gly Gly Gly Gly Gly His Ser Gly
 195 200 205

Ser Val Leu Thr Thr Ser Asp Gly Gly Ala Ser Thr His Thr Leu Arg
 210 215 220

Asp Phe Asp Leu Asn Met Pro Ala Ser Pro Glu Leu Gln Leu Gly Leu
 225 230 235 240

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Ser Ile Asp Cys Gly Arg Lys Ser Gln Leu Leu Pro Met Val Gln Glu
 245 250 255

Val Glu Ser Pro Met Pro Ala Lys Lys Pro Arg Leu Leu Phe Ser Leu
 260 265 270

Gly

<210> 18
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 <212> DNA
 <213> Oryza sativa

<400> 18
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<210> 19

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<211> 269

<212> PRT

<213> Oryza sativa

<400> 19

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35 40 45Ala Lys Arg Lys Arg Ser Arg Arg Gln Arg Ser Glu Glu Glu Asn Leu
50 55 60Ala Leu Cys Leu Leu Met Leu Ala Arg Gly Gly His His Arg Val Gln
65 70 75 80Ala Pro Pro Pro Leu Ser Ala Ser Ala Pro Pro Pro Ala Gly Ala Glu
85 90 95Phe Lys Cys Ser Val Cys Gly Lys Ser Phe Ser Ser Tyr Gln Ala Leu
100 105 110Gly Gly His Lys Thr Ser His Arg Val Lys Leu Pro Thr Pro Pro Ala
115 120 125Ala Pro Val Leu Ala Pro Ala Pro Val Ala Ala Leu Leu Pro Ser Ala
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145 150 155 160Met Thr Asn Arg Val His Arg Cys Ser Ile Cys Gln Lys Glu Phe Pro
165 170 175Thr Gly Gln Ala Leu Gly Gly His Lys Arg Lys His Tyr Asp Gly Gly
180 185 190Val Gly Ala Gly Ala Gly Ala Ser Ser Thr Glu Leu Leu Ala Thr Val
195 200 205Ala Ala Glu Ser Glu Val Gly Ser Ser Gly Asn Gly Gln Ser Ala Thr
210 215 220Arg Ala Phe Asp Leu Asn Leu Pro Ala Val Pro Glu Phe Val Trp Arg
225 230 235 240

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Pro Cys Ser Lys Gly Lys Lys Met Trp Asp Glu Glu Glu Glu Val Gln
245 250 255

Ser Pro Leu Ala Phe Lys Lys Pro Arg Leu Leu Thr Ala
260 265

<210> 20
<211> 1020
<212> DNA
<213> Petunia x hybrida

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<210> 21
<211> 253
<212> PRT
<213> Petunia x hybrida

<400> 21
Met Ala Leu Glu Ala Leu Asn Ser Pro Thr Thr Thr Thr Pro Pro Ser
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Phe Gln Phe Glu Asn Asn Gly Leu Lys Tyr Leu Glu Ser Trp Thr Lys
20 25 30

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Gly Lys Arg Ser Lys Arg Gln Arg Ser Met Glu Arg Gln Cys Thr Glu
35 40 45

Glu Glu Tyr Leu Ala Leu Cys Leu Ile Met Leu Ala Arg Ser Asp Gly
50 55 60

Ser Val Asn Asn Ser Arg Ser Leu Pro Pro Pro Pro Leu Pro Pro Ser
65 70 75 80

Val Pro Val Thr Ser Gln Ile Asn Ala Thr Leu Leu Glu Gln Lys Asn
85 90 95

Leu Tyr Lys Cys Ser Val Cys Gly Lys Gly Phe Gly Ser Tyr Gln Ala
100 105 110

Leu Gly Gly His Lys Ala Ser His Arg Lys Leu Val Ser Met Gly Gly
115 120 125

Asp Glu Gln Ser Thr Thr Ser Thr Thr Thr Asn Val Thr Gly Thr Ser
130 135 140

Ser Ala Asn Val Asn Gly Asn Gly Arg Thr His Glu Cys Ser Ile Cys
145 150 155 160

His Lys Cys Phe Pro Thr Gly Gln Ala Leu Gly Gly His Lys Arg Cys
165 170 175

His Tyr Asp Gly Gly Asn Gly Asn Gly Asn Gly Ser Val Ser Val Gly
180 185 190

Val Thr Ser Ser Glu Gly Val Gly Ser Thr Ile Ser His His Arg Asp
195 200 205

Phe Asp Leu Asn Ile Pro Ala Leu Pro Glu Phe Trp Pro Gly Phe Gly
210 215 220

Ser Gly Glu Asp Glu Val Glu Ser Pro His Pro Ala Lys Lys Ser Arg
225 230 235 240

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<213> Triticum aestivum

4982-5.TXT

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 35 40 45
 Ser Arg Arg Gln Arg Ser Glu Glu Glu Asn Leu Ala Leu Cys Leu Leu
 50 55 60
 Met Leu Ser Arg Gly Gly Lys Gln Arg Val Gln Ala Pro Gln Pro Glu
 65 70 75 80
 Ser Phe Ala Ala Pro Val Pro Ala Glu Phe Lys Cys Ser Val Cys Gly
 85 90 95
 Lys Ser Phe Ser Ser Tyr Gln Ala Leu Gly Gly His Lys Thr Ser His
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4982-5.TXT

Arg Val Lys Gln Pro Ser Pro Pro Ser Asp Ala Ala Ala Ala Pro Leu
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 Val Ala Leu Pro Ala Val Ala Ala Ile Leu Pro Ser Ala Glu Pro Ala
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 Arg Cys Ser Ile Cys Gln Lys Glu Phe Pro Thr Gly Gln Ala Leu Gly
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 Gly His Lys Arg Lys His Tyr Asp Gly Gly Val Gly Ala Ala Ala Ser
 180 185 190
 Ser Thr Glu Leu Leu Ala Ala Ala Ala Glu Ser Glu Val Gly Ser
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 Thr Gly Asn Gly Ser Ser Ala Ala Arg Ala Phe Asp Leu Asn Ile Pro
 210 215 220
 Ala Val Pro Glu Phe Val Trp Arg Pro Cys Ala Lys Gly Lys Met Met
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<212> DNA

<213> Capsicum annum

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4982-5.TXT

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35 40 45
Pro Thr Glu Glu Glu Tyr Leu Ala Leu Cys Leu Ile Met Leu Ala Arg
50 55 60
Ser Gly Gly Ser Val Asn His Gln Arg Ser Leu Pro Pro Pro Ala Pro
65 70 75 80
Val Met Lys Leu His Ala Pro Ser Ser Ser Ala Ala Glu Glu Glu
85 90 95
Lys Glu Lys Met Val Tyr Lys Cys Ser Val Cys Gly Lys Gly Phe Gly
100 105 110
Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His Arg Lys Leu Val
115 120 125
Pro Gly Gly Asp Asp Gln Ser Thr Thr Ser Thr Thr Thr Asn Ala Thr
130 135 140

4982-5.TXT

Gly Thr Thr Thr Ser Val Asn Gly Asn Gly Asn Arg Ser Gly Arg Thr
145 150 155 160

His Glu Cys Ser Ile Cys His Lys Cys Phe Pro Thr Gly Gln Ala Leu
165 170 175

Gly Gly His Lys Arg Cys His Tyr Asp Gly Gly Ile Gly Asn Gly Asn
180 185 190

Ala Asn Ser Gly Val Ser Ala Ser Val Gly Val Thr Ser Ser Glu Gly
195 200 205

Val Gly Ser Thr Val Ser His Arg Asp Phe Asp Leu Asn Ile Pro Ala
210 215 220

Leu Pro Glu Phe Trp Leu Gly Phe Gly Ser Gly Glu Asp Glu Val Glu
225 230 235 240

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Glu Leu Phe Gln His
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<210> 26

<211> 1068

<212> DNA

<213> Arabidopsis thaliana

<400> 26

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tggccctcga agcgtgaac actccaactt cttctttcac cagaatcgaa acgaaagaag 180

atttgatgaa cgacgccgtt ttcatgtgag cgtggcttaa acgcaaacgc tccaaacgtc 240

agcgtttctca cagcccttct tcgtcttctt cctcaccgcc tcgatctcga cccaaatccc 300

agaatcaaga tcttacggaa gaagagtatc tcgctcttgg tctcctcatg ctcgctaaag 360

atcaaccgct gcaaacgcga ttcatcaac agtcggaatc gtaacgcgc ccgcgagaat 420

caaagaacct tccgtacaag tgaacgtct gtgaaaaagc gtttctctcc tatcaggctt 480

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ccggaaagat ccacgagtgt tcaatctgtc ataaagtgtt tccgacgggt caagctttag 660

gcggtcacaa acgttgtcac tacgaaggca acctcggcgg cggaggagga ggagggaagca 720

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4982-5.TXT

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 <213> Arabidopsis thaliana

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 35 40 45

Ser Ser Ser Ser Pro Pro Arg Ser Arg Pro Lys Ser Gln Asn Gln Asp
 50 55 60

Leu Thr Glu Glu Glu Tyr Leu Ala Leu Cys Leu Leu Met Leu Ala Lys
 65 70 75 80

Asp Gln Pro Ser Gln Thr Arg Phe His Gln Gln Ser Gln Ser Leu Thr
 85 90 95

Pro Pro Pro Glu Ser Lys Asn Leu Pro Tyr Lys Cys Asn Val Cys Glu
 100 105 110

Lys Ala Phe Pro Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His
 115 120 125

Arg Ile Lys Pro Pro Thr Val Ile Ser Thr Thr Ala Asp Asp Ser Thr
 130 135 140

Ala Pro Thr Ile Ser Ile Val Ala Gly Glu Lys His Pro Ile Ala Ala
 145 150 155 160

Ser Gly Lys Ile His Glu Cys Ser Ile Cys His Lys Val Phe Pro Thr
 165 170 175

Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu Gly Asn Leu
 Page 20

Gly Gly Gly Gly Gly Gly Gly Ser Lys Ser Ile Ser His Ser Gly Ser
 195 200 205

Val Ser Ser Thr Val Ser Glu Glu Arg Ser His Arg Gly Phe Ile Asp
 210 215 220

Leu Asn Leu Pro Ala Leu Pro Glu Leu Ser Leu His His Asn Pro Ile
 225 230 235 240

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<213> Arabidopsis thaliana

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 <213> Arabidopsis thaliana

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 35 40 45
 Asp Glu Tyr Ile Ala Leu Cys Leu Met Leu Leu Ala Arg Asp Gly Asp
 50 55 60
 Arg Asn Arg Asp Leu Asp Leu Pro Ser Ser Ser Ser Pro Pro Leu
 65 70 75 80
 Leu Pro Pro Leu Pro Thr Pro Ile Tyr Lys Cys Ser Val Cys Asp Lys
 85 90 95
 Ala Phe Ser Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His Arg
 100 105 110
 Lys Ser Phe Ser Leu Thr Gln Ser Ala Gly Gly Asp Glu Leu Ser Thr
 115 120 125
 Ser Ser Ala Ile Thr Thr Ser Gly Ile Ser Gly Gly Gly Gly Ser
 130 135 140
 Val Lys Ser His Val Cys Ser Ile Cys His Lys Ser Phe Ala Thr Gly
 145 150 155 160
 Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu Gly Lys Asn Gly
 165 170 175
 Gly Gly Val Ser Ser Val Ser Asn Ser Glu Asp Val Gly Ser Thr
 180 185 190
 Ser His Val Ser Ser Gly His Arg Gly Phe Asp Leu Asn Ile Pro Pro
 195 200 205

4982-5.TXT

Ile Pro Glu Phe Ser Met Val Asn Gly Asp Glu Glu Val Met Ser Pro
210 215 220

Met Pro Ala Lys Lys Leu Arg Phe Asp Phe Pro Glu Lys Pro
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<211> 718

<212> DNA

<213> *Arabidopsis thaliana*

<400> 30

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<212> PRT

<213> *Arabidopsis thaliana*

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35 40 45

Gln Pro Asn Pro Pro Ser Glu Glu Glu Tyr Leu Ala Leu Cys Leu
50 55 60

Leu Met Leu Ala Arg Gly Ser Ser Asp His His Ser Pro Pro Ser Asp
65 70 75 80

4982-5.TXT

His His Ser Leu Ser Pro Leu Ser Asp His Gln Lys Asp Tyr Lys Cys
85 90
Ser Val Cys Gly Lys Ser Phe Pro Ser Tyr Gln Ala Leu Gly Gly His
100 105
Lys Thr Ser His Arg Lys Pro Val Ser Val Asp Val Asn Asn Ser Asn
115 120
Gly Thr Val Thr Asn Asn Gly Asn Ile Ser Asn Gly Leu Val Gly Gln
130 135
Ser Gly Lys Thr His Asn Cys Ser Ile Cys Phe Lys Ser Phe Pro Ser
145 150 155 160
Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Asp Gly Gly Asn
165 170 175
Gly Asn Ser Asn Gly Asp Asn Ser His Lys Phe Asp Leu Asn Leu Pro
180 185 190
Ala Asp Gln Val Ser Asp Glu Thr Ile Gly Lys Ser Gln Leu Ser Gly
195 200 205
Glu Glu Thr Lys Ser Val Leu
210 215

<210> 32
<211> 702
<212> DNA
<213> Arabidopsis thaliana

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4982-5. TXT

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 <212> PRT
 <213> *Arabidopsis thaliana*

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 35 40 45

Tyr Leu Ala Phe Cys Leu Met Leu Leu Ala Arg Asp Gly Gly Asp Leu
 50 55 60

Asp Ser Val Thr Val Ala Glu Lys Pro Ser Tyr Lys Cys Gly Val Cys
 65 70 75 80

Tyr Lys Thr Phe Ser Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser
 85 90 95

His Arg Ser Leu Tyr Gly Gly Gly Glu Asn Asp Lys Ser Thr Pro Ser
 100 105 110

Thr Ala Val Lys Ser His Val Cys Ser Val Cys Gly Lys Ser Phe Ala
 115 120 125

Thr Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Asp Gly Gly
 130 135 140

Val Ser Asn Ser Glu Gly Val Gly Ser Thr Ser His Val Ser Ser Ser
 145 150 155 160

Ser His Arg Gly Phe Asp Leu Asn Ile Ile Pro Val Gln Gly Phe Ser
 165 170 175

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 180 185 190

Lys

4982-5.TXT

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<213> Arabidopsis thaliana

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<213> Arabidopsis thaliana

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Trp Ala Lys Arg Lys Arg Thr Lys Arg Gln Arg Phe Asp His Gly His
Page 26

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35 40 45
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 65 70 75 80
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 85 90 95
 Tyr Lys Cys Thr Val Cys Gly Lys Ser Phe Ser Ser Tyr Gln Ala Leu
 100 105 110
 Gly Gly His Lys Thr Ser His Arg Lys Pro Thr Asn Thr Ser Ile Thr
 115 120 125
 Ser Gly Asn Gln Glu Leu Ser Asn Asn Ser His Ser Asn Ser Gly Ser
 130 135 140
 Val Val Ile Asn Val Thr Val Asn Thr Gly Asn Gly Val Ser Gln Ser
 145 150 155 160
 Gly Lys Ile His Thr Cys Ser Ile Cys Phe Lys Ser Phe Ala Ser Gly
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 Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Asp Gly Gly Asn Asn
 180 185 190
 Gly Asn Gly Asn Gly Ser Ser Ser Asn Ser Val Glu Leu Val Ala Gly
 195 200 205
 Ser Asp Val Ser Asp Val Asp Asn Glu Arg Trp Ser Glu Glu Ser Ala
 210 215 220
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 225 230 235 240
 Ser Val Thr Thr Ser
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<210> 36

<211> 1213

<212> DNA

<213> Oryza sativa

<400> 36

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4982-5.TXT

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35      40      45
Ala Lys Arg Lys Arg Ser Arg Arg Gln Arg Ser Glu Glu Glu Asn Leu
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4982-5.TXT

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Ala Pro Pro Pro Leu Ser Ala Ser Ala Pro Pro Pro Ala Gly Ala Glu
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Phe Lys Cys Ser Val Cys Gly Lys Ser Phe Ser Ser Tyr Gln Ala Leu
100 105 110

Gly Gly His Lys Thr Ser His Arg Val Lys Leu Pro Thr Pro Pro Ala
115 120 125

Ala Pro Val Leu Ala Pro Ala Pro Val Ala Ala Leu Leu Pro Ser Ala
130 135 140

Glu Asp Arg Glu Pro Ala Thr Ser Ser Thr Ala Ala Ser Ser Asp Gly
145 150 155 160

Met Thr Asn Arg Val His Arg Cys Ser Ile Cys Gln Lys Glu Phe Pro
165 170 175

Thr Gly Gln Ala Leu Gly Gly His Lys Arg Lys His Tyr Asp Gly Gly
180 185 190

Val Gly Ala Gly Ala Gly Ala Ser Ser Thr Glu Leu Leu Ala Thr Val
195 200 205

Ala Ala Glu Ser Glu Val Gly Ser Ser Gly Asn Gly Gln Ser Ala Thr
210 215 220

Arg Ala Phe Asp Leu Asn Leu Pro Ala Val Pro Glu Phe Val Trp Arg
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agcaaaacga accataataa ccacttcgaa tgcaaaacgt gtaaccggaa atttgattcc 180

4982-5. TXT

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Phe Glu Cys Lys Thr Cys Asn Arg Lys Phe Asp Ser Phe Gln Ala Leu 50 55 60
Gly Gly His Arg Ala Ser His Lys Lys Pro Lys Leu Ile Val Asp Gln 65 70 75 80
Glu Gln Val Lys His Arg Asn Lys Glu Asn Asp Met His Lys Cys Thr 85 90 95
Ile Cys Asp Gln Met Phe Gly Thr Gly Gln Ala Leu Gly Gly His Met 100 105 110
Arg Lys His Arg Thr Ser Met Ile Thr Glu Gln Ser Ile Val Pro Ser 115 120 125
Val Val Tyr Ser Arg Pro Val Phe Asn Arg Cys Ser Ser Ser Lys Glu 130 135 140
Ile Leu Asp Leu Asn Leu Thr Pro Leu Glu Asn Asp Leu Val Leu Ile 145 150 155 160
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4982-5.TXT

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 ctcatctctt tctctctggt actctctcct ctctctctt ctctcttccct caatccggag 180

4982-5. TXI

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 <213> Arabidopsis thaliana

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4982-5.TXT

Gly Asp Leu Arg Arg Pro Pro Pro Pro Thr Pro Pro Pro Ser Pro
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Pro Leu Arg Glu Ala Leu Pro Leu Leu Ser Leu Ser Pro Ala Asn Lys
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Gln Gln Asp His His His Asn His Asp His Leu Ile Gln Glu Pro Pro
85 90 95

Ser Thr Ser Met Asp Val Asp Tyr Asp His His His Gln Asp Asp His
100 105 110

His Asn Leu Asp Asp Asp Asp His Asp Val Thr Val Ala Leu His Ile
115 120 125

Gly Leu Pro Ser Pro Ser Ala Gln Glu Met Ala Ser Leu Leu Met Met
130 135 140

Ser Ser Ser Ser Ser Ser Ser Arg Thr Thr His His His Glu Asp Met
145 150 155 160

Asn His Lys Lys Asp Leu Asp His Glu Tyr Ser His Gly Ala Val Gly
165 170 175

Gly Gly Glu Asp Asp Asp Glu Asp Ser Val Gly Gly Asp Gly Gly Cys
180 185 190

Arg Ile Ser Arg Leu Asn Lys Gly Gln Tyr Trp Ile Pro Thr Pro Ser
195 200 205

Gln Ile Leu Ile Gly Pro Thr Gln Phe Ser Cys Pro Val Cys Phe Lys
210 215 220

Thr Phe Asn Arg Tyr Asn Asn Met Gln Met His Met Trp Gly His Gly
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Ser Gln Tyr Arg Lys Gly Pro Glu Ser Leu Arg Gly Thr Gln Pro Thr
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260 265 270

Asn Ile Asp His Pro Arg Ala Lys Pro Leu Lys Asp Phe Arg Thr Leu
275 280 285

Gln Thr His Tyr Lys Arg Lys His Gly Ile Lys Pro Phe Met Cys Arg
Page 33

290

295

Lys Cys Gly Lys Ala Phe Ala Val Arg Gly Asp Trp Arg Thr His Glu
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325 330 335
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4982-5.TXT

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Thr His Thr Thr Ser Thr Ser Pro Asn Ser Pro Pro Leu Arg Glu Ala
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Leu Pro Leu Leu Ser Leu Ser Pro Ile Arg His Gln Glu Gln Gln Asp
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Gln His Tyr Phe Met Asp Thr His Gln Ile Ser Ser Ser Asn Phe Leu
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Asp Asp Pro Leu Val Thr Val Asp Leu His Leu Gly Leu Pro Asn Tyr
 100 105 110

Gly Val Gly Glu Ser Ile Arg Ser Asn Ile Ala Pro Asp Ala Thr Thr
 115 120 125

Asp Glu Gln Asp Gln Asp His Asp Arg Gly Val Glu Val Thr Val Glu
 130 135 140

Ser His Leu Asp Asp Asp Asp His His Gly Asp Leu His Arg Gly
 145 150 155 160

His His Tyr Trp Ile Pro Thr Pro Ser Gln Ile Leu Ile Gly Pro Thr
 165 170 175

Gln Phe Thr Cys Pro Leu Cys Phe Lys Thr Phe Asn Arg Tyr Asn Asn
 180 185 190

4982-5.TXT

Met Gln Met His Met Trp Gly His Gly Ser Gln Tyr Arg Lys Gly Pro
 195 200
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 210 215
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 225 230 235 240
 Lys Pro Leu Lys Asp Phe Arg Thr Leu Gln Thr His Tyr Lys Arg Lys
 245 250 255
 His Gly Ser Lys Pro Phe Ala Cys Arg Met Cys Gly Lys Ala Phe Ala
 260 265 270
 Val Lys Gly Asp Trp Arg Thr His Glu Lys Asn Cys Gly Lys Leu Trp
 275 280
 Tyr Cys Ser Cys Gly Ser Asp Phe Lys His Lys Arg Ser Leu Lys Asp
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Phe Gln Ala Leu Gly Gly His Arg Ala Ser His Lys Lys Leu Ile Asn
 50 55 60

Ser Ser Asp Pro Ser Leu Leu Gly Ser Leu Ser Asn Lys Lys Thr Lys
 65 70 75 80

Thr Ala Thr Ser His Pro Cys Pro Ile Cys Gly Val Glu Phe Pro Met
 85 90 95

Gly Gln Ala Leu Gly Gly His Met Arg Arg His Arg Ser Glu Lys Ala
 100 105 110

Ser Pro Gly Thr Leu Val Thr Arg Ser Phe Leu Pro Glu Thr Thr Thr
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Val Thr Thr Leu Lys Lys Ser Ser Ser Gly Lys Arg Val Ala Cys Leu
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Arg Thr Ile Ser

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 Page 37

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<212> PRT

<213> Arabidopsis thaliana

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Asn Gln Gln Gln Asp Val Thr Cys Tyr Tyr Gly Leu Arg Glu Asn Ser
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Lys Lys Lys Thr Gln Glu Ser Pro Glu Pro Met Lys Lys Ile Leu Phe
          50          55          60

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Arg Cys Glu Glu Cys Gly Lys Gly Phe Arg Tyr Glu Lys Tyr Phe Lys
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4982-5.TXT

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							Ser
							Phe
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							Asp
							Gly
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							Leu
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							Glu
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Glu	Ile	Thr	Thr	Pro	Val	Thr	Phe
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							Leu
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Leu	Ser	Asn	Glu	Gln	Thr	Leu	Met
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4982-5.TXT

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 35 40 45
 Glu Arg Ala Val Ser Asp Glu Tyr Asn Ser Ala Val Ser Ser Pro Val
 50 55 60
 Thr Thr Asp Cys Thr Gln Glu Glu Glu Asp Met Ala Ile Cys Leu Ile
 65 70 75 80
 Met Leu Ala Arg Gly Thr Val Leu Pro Ser Pro Asp Leu Lys Asn Ser
 85 90 95
 Arg Lys Ile His Gln Lys Ile Ser Ser Glu Asn Ser Ser Phe Tyr Val
 100 105 110
 Tyr Glu Cys Lys Thr Cys Asn Arg Thr Phe Ser Ser Phe Gln Ala Leu
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 130 135 140
 Lys Thr Arg Leu Pro Leu Thr Gln Pro Lys Ser Ser Ala Ser Glu Glu
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 Gly Gln Asn Ser His Phe Lys Val Ser Gly Ser Ala Leu Ala Ser Gln
 165 170 175
 Ala Ser Asn Ile Ile Asn Lys Ala Asn Lys Val His Glu Cys Ser Ile
 180 185 190
 Cys Gly Ser Glu Phe Thr Ser Gly Gln Ala Leu Gly Gly His Met Arg
 195 200 205

4982-5.TXT

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210 215 220

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<213> Arabidopsis thaliana

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Ala, Cys, Phe, Gly, His, Ile, Lys, Leu, Met, Arg, Thr,
Val, Trp or Tyr

<400> 51

Gln Ala Xaa Gly Gly His
1 5

<210> 52

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
6xHis tag

<400> 52

His His His His His His
1 5